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ORIGINAL ARTICLES.

SURGERY FOR TYPHOID PERFORATIONS.*

JOSEPH PRICE, M.D., PHILADELPHIA.

I submit the following report of cases operated on for typhoid perforation for the lessons they may convey, and will discuss them from the standpoint of our more recent experience.

CASE 1.—Mrs. A. O., aged thirty, having several children, but without a history of miscarriages, was admitted to the hospital on October 2, 1896. She was seen by Drs. Hughes and Owen in consultation after some three weeks of illness, with a typical history of typhoid fever. Operation was performed on October 1st. Symptoms of perforation were present with well localized attacks of peritonitis and an irregular and ill-defined tumor on the right side. Omentum and small bowel were found adherent in the region of the ileo-cecal valve. The adhesions were easily freed and two perforating ulcers, six inches apart, were found. The lower one, situated a few inches from the valve, was large, irregular, and necrotic; the second one was higher up in the bowel, about one-half inch in length, well defined, and less healthy in appearance.

A puddle of filthy fluid was found about the perforations, and the omentum and appendix were also involved in the adhesions. The infected portions of the omentum and appendix were removed. The holes in the ileum were trimmed and sutured, and an irrigation toilet was followed by both glass and gauze drainage. The mesenteric and retroperitoneal lymphatics were generally enlarged and easily recognized by touch and sight. Recovery ensued without a hitch.

CASE 2.—Mrs. B. K., a married woman, aged twenty-six, with two children and a history of one miscarriage, was admitted to the hospital on June 4, 1896. She had a rapid pulse and high temperature, and appeared to be in a decided septic condition. Peritonitis was quite general, and alarming emaciation had taken place apparently as a result of some lung trouble. Section was made on June 5th. General adhesions were found in the region of the ileum and right groin. When all adhesions had been freed, a large, ragged perforation was found in the ileum, with circumscribed accumulation of

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bowel contents. The perforation was trimmed and sutured. After an irrigation toilet, glass and gauze drainage were provided. Recovery followed. For two days following the operation the pulse remained high and feeble. The temperature also was high, and this was considered rather favorable. This patient had been very ill for two weeks before admission to the hospital. The character of the ulceration was doubtful, as there was tuberculous trouble in the lungs. The closure of the fistula after suturing is rather against tubercle, as tuberculous fistula rarely close by suture.

CASE 3.—Mrs. R. B., a married woman, aged twenty-eight, without children and without a history of miscarriages, came under observation after three weeks of illness and treatment for typhoid fever. She was admitted to the hospital on January 5, 1895, and went into collapse soon afterward, being unconscious at the time of operation. On January 6th section was undertaken, freeing all adhesions, stitching multiple bowel-fistula, detaching lymph from the bowel with gauze. There was a general angry peritonitis, with filthy bowel contents, and filthy inflammatory products throughout the peritoneal cavity. Gaseous distention was marked and the peritoneum had a decided fecal odor. Thorough irrigation and drainage were practised. I never attempted to close a filthier peritoneal cavity than this, either ante-mortem or post-mortem. Recovery followed. There were present at the operation Dr. N. Fred Essig, of Spokane, Washington; Dr. Samuel S. Q. Robinson, of the U. S. Army; Dr. Harold Bunn, of California; Dr. John F. Roeder, Dr. H. S. Lewers, and Dr. Garden, of Philadelphia.

Notwithstanding the great progress medical and surgical science has made, typhoid fever continues to present many complex and difficult questions. It must be classed among the most grave troubles with which the profession has to deal. Little is known about the disease, other than of its more objective symptoms. There is no exactitude or certainty in its treatment, which is rarely the same by any two physicians. The treatment begins with guesses and grows into some degree of certainty only as conditions improve. I will not attempt to deal with the larger circle of facts connected with typhoid fever, but will restrict my discussion to the surgical treatment of typhoid perforation.

Again, we have a wide divergence of opinion as to the propriety or wisdom of operation. There is no very general accord of opinion as to prognosis or the definiteness and reliability of symptoms —as to reliable evidence of perforation —nor is it agreed that all these cases prove fatal.

Dr. Reginald H. Fitz, of Boston, has furnished valuable data as the result of a study of the work of the earlier investigators as to the fatality of typhoid perforation. Louis, Chomel, and Jenner have reported numerous cases of typhoid perforation, but none of recovery. Tweedle says: "Intestinal perforation is always fatal, generally within thirty-six hours." Some more recent authorities make more favorable reports, others agreeing with the earlier authorities as to the almost certain fatality.

Griesinger holds that there is a possibility of the healing of a perforation and of recovery "never in cases of general peritonitis, only when the inflammation is wholly circumscribed. The rare exceptions are hardly worth considering in connection with the prognosis, which is to be regarded as almost fatal when the symptoms of perforation are distinct, and as absolutely fatal when gas is present over the liver. Murchison, who has contributed much that is valuable to the literature of the subject, says that "rare cases are met with where recovery ensues after all the symptoms of peritonitis from perforation." Dr. Reeves reports that: "I have seen in five instances all the symptoms which announce and follow perforation of the bowels, yet the patients recovered." Dr. Loomis, in discussing the subject, says: "I do not remember to have seen a single recovery after there were unmistakable evidences of intestinal perforation. Recovery from a local peritonitis complicating typhoid fever is not uncommon, but when the characteristic symptoms of intestinal perforation are present, in my experience, a fatal issue soon follows." So we have the weight of authority on the side of almost certain fatality.

In the reported cases, due allowance

must be made for errors of diagnosis. In many of these cases the diagnosis was not made until post-mortem examination revealed the characteristic typhoid lesions. Had recovery taken place, much doubt would have remained in the mind of the operator as to the real nature of the perforation. We know that typhoid perforations are the most common variety of perforations, and the perforation is usually in the ileum.

As to the mortality in cases of the perforation of the bowel, Dr. Osler gives recent statistics: "In 114 cases of the 2000 Munich autopsies (5.7 per cent.) and in fourteen instances in my series, the intestine was perforated and death caused by peritonitis. The perforation may occur in ulcers, from which the sloughs have already separated, or it may be directly due to the extension of a necrosis through all the coats. In only a few cases is the perforation at the bottom of a clean, thin-walled ulcer. In one instance the perforation occurred two weeks after the temperature had become normal. The sloughs were, as a rule, adherent about the site of the perforation. A majority of the cases were in small, deep ulcers. There may be two or even three perforations. The orifice is usually within the last foot of the illum. In only one of my cases was it distant eighteen inches. Peritonitis was present in every instance.

Hemorrhage from the bowels occurred in ninety-nine of the Munich cases, and in nine of my series. The bleeding seems to result directly from the separation of the sloughs. I was not able in any instance to find the bleeding vessel. In one case only a single patch had sloughed, and a firm clot was adherent to it. The bleeding may also come from the soft, swollen edges of the patch. Peritonitis without perforation may also occur by extension from the ulcer, or, occasionally, by rupture of a softened mesenteric gland. It was present in 2.2 per cent. of the Munich autopsies.

The question is direct, What chances does surgery offer? The one and only chance left. We know the almost inevitable sequel in one case and something of the possibilities in the other. The one means death, the other gives a chance of recovery. The error, to put it mildly, consists in abandoning these cases as absolutely hopeless, when there is yet one last resort,—surgery,—which furnishes precedents of encouraging success. I am not venturing upon entirely new ground. Dr. James C. Wilson, the honored President of this society, a clinician of wide experience, stands among the first, if not the first, to advocate, in clear, unequivocal language, surgical dealing with these cases. Dr. Hunter McGuire, of Richmond, Va., a worthy supporter of the fame of the old school of surgeons, recommends the tying of vessels to control hemorrhage from ulcers in typhoid fever. He recognizes that too many are lost from this cause, and suggests an original and ingenious method of suturing to control the hemorrhage and avoid necrosis. We are slow in following the lead these men take, slow and hesitating in adopting their urgent suggestions, in coming down from our theoretic lofty height. All our surgical procedures have made their way in the face of relentless criticism and opposition. Surgical interference, in cases of typhoid perforation, has not proved an exception. Largely, the difficulty lies in timidity and oversensitiveness as to professional repute. The protective character of adhesions are often misleading, tending to lull apprehension as to immediate existing risks to life. The condition is too frequently classified for non-interference—left to the processes of nature—when parts are weakened and poisoned beyond the kindly healing and remedial processes of nature. We find, occasionally, recorded deaths from spontaneous perforation due to chronic local peritonitis. The history may be that of localized attacks of peritonitis—with doubtful evidence of perforation—the localized attack resulting simply in adhesions about the ulcer. If the adhesions are well formed the escape of gas and bowel-contents will be limited when perforation occurs.

The patching or fortification by adhesive and protective peritonitis, avoiding acute general peritonitis and sepsis, gives us the most favorable class of cases for surgery. Localized peritonitis, with adhesions, with or without perforation, around an ulcer, with sufficient adhesive and inflammatory product to

form a small tumor, is quite easily recognizable in an emaciated patient. An eminent surgeon says, in connection with these cases, that which cannot be accepted as safe dictum:

"Surgeons are not justified in performing laparotomy for the suturing of perforated typhoid ulcers, if circumscribed peritonitis of an adhesive or protective character exist, or is in process of development."

The trouble, as with all intestinal affections, is a hidden one, not one directly addressed to our vision. We cannot determine with any large degree of certainty, even from a few marked objective signs, the extent of the protective character of the adhesions, nor determine anything certain as to the character or extent of the process of development. We know the sequence in the majority of these cases where there is no interference. Perforations or fistulæ, due to ulceration and sloughing, rarely close. Almost all such ulcers are surrounded by adhesions, with pus, bowel contents, fistulæ and fistulous openings. Complications become general, keeping the patient in a miserable condition; emaciated and anxious, with a rapid pulse, cold, clammy and greatly wasted. Fistulæ of viscera, due to incision or surgery, commonly closes spontaneously. Not so, however, when due to sloughing. Unfortunately, we are not always aided by the clinical history in our diagnosis. We are directed or guided largely by the patient's general condition, the peritonitis or the small and ill-defined tumor.

There is but little difficulty in settling the fact that the patient is dying of some intra-peritoneal lesion. Errors are rarely made in opening the abdomen. Suture methods for repair, after careful trimming of the ulceration, give the most pleasing results. Excisions or resections have nothing to recommend them. The open treatment, when the conditions are desperate, and sepsis and bowel distention very marked, favors peritoneal and bowel drainage of all contents. An abundance of gauze placed about the fistula in the shape of a square coffer-dam favors simple drainage and avoids contamination. The large mortality has been largely due to clumsy and imperfect work. Everything within the abdomen is intolerant of bungling manipulation. The surgery is not to be gone at with that awkwardness with which a man would try to put his five fingers in a glove with four. The delicacy of the condition of the parts, which the very nature of the disease creates, requires in the surgery the use of fingers delicate and sensitive of touch and deft in use. The repair of perforations, commonly single, rarely multiple, is easy and should be rapid. There may be some delay in the seeking and finding the point of perforation, but the well-defined nature of the pathologic condition at that point is easily recognized by fingers familiar with normal intra-peritoneal conditions. The deviation from the normal can be instantly recognized when the fingers are passed through the viscera without exposure. The cluster of adhesions, omentum and bowel, about the perforation are easily freed. The cleansing, local and general toilet, are of great importance. Rarely do we find distention associated with perforations, except in the delayed cases, on the third or fourth day after perforation.

In delayed cases the mass is well marked; paresis of the bowel with overdistention is prominent. The characteristic fecal odor is recognized at once upon opening the abdomen. This is most marked in the acute cases in those dying soon after perforation. If the adhesions are well formed about the perforation, a fecal odor is rarely present. When patients are under observation, the diagnosis made early, the disease running a uniform course with a definite train of symptoms, the characteristic morning remissions and evening exacerbations, and about the third week a copious intestinal hemorrhage takes place, with the patient sinking into fatal collapse, with a quick pulse, subnormal temperature, the symptoms admit of but one interpretation, and point to but one possible source of relief.

In the very nature of things, from the very character of the trouble and the parts attacked, the mortality will always be large; but some can be saved. The stimulus of anesthesia increases the force of the pulse, the patient's respirations deepen, and at the completion of many of these operations the patient's

general condition is often better than before the operation. An irrigation toilet, aside from having great value for cleansing, is a stimulant to the solar-plexus and favors reaction.

The same principles apply in these cases of typhoid perforating ulcers that apply in cases of general septic or purulent peritonitis and to stab wounds and gun-shot wounds. The words of Dr. D. Hayes Agnew, who, in his day, was the sovereign spirit of American surgery as applied by him to gun-shot wounds of the abdomen, applies with equal appropriateness to typhoid perforations.

He says: "I want to place myself upon record, for I have very strong convictions with regard to laparotomy. They amount to this: If there is a reasonable degree of evidence that there is a penetrating abdominal wound, especially if a shot-wound, it is our duty to open the abdomen, to make an exploratory incision. We are not to be deterred by the possibility of some legal technicality, if the case should come into court. We are to do our duty without reference to consequences."

I will quote extensively from Dr. J. C. Wilson, for nothing better has been said upon the subject:

"I take it for granted that almost every case of free extravasation of intestinal contents, however small in amount, into the peritoneal cavity terminates fatally. There is little reason to believe that any case of this kind recovers. It is important to note that the cases of peritonitis in enteric fever in which recovery is possible can be chemically distinguished from those which will terminate rapidly in death. The clinical picture of the two conditions is almost as distinct as are the pathological lesions. Where there is extravasation of the intestinal contents into the peritoneal cavity, the collapse is like that caused by the escape of an amount of foreign matter, the result of a perforating gun-shot wound of the intestine. The proposition which I submit for discussion arises directly from a consideration of the matter in this way. Until within a few years, no surgeon realized the possibility of treating cases of gun-shot injury of the abdomen with perforation of the intestine and the escape of blood and fecal matter by the operation of laparotomy, washing out the peritoneal cavity, excising bruised and lacerated portions of the intestine, and bringing the parts together by suture. Yet this is now the recognized procedure in such cases, and has been of late practised in many instances with success in cases that, under the old plan of opium and expectancy, would have inevitably perished.

"Are we ready to adopt the same measures in perforation of the intestine with similar conditions as regards the peritoneal cavity, and a like helplessness as regards cure by opium and expectancy in our cases of enteric fever? Recognizing the two groups of cases I have described, and being, as we are, able to refer almost all cases to either one or the other of them within a few hours of the development of the symptoms, are we prepared to decide—and to do so with the necessary promptness—upon those operative procedures by which alone in the second group the life of the patient may be saved.

"Granted that the chances of a successful issue are heavily against you; that the patient is in the midst or at the end of a long sickness; that his tissues are in the worst state to stand the injuries of the surgeon's knife; that the lesions of the gut may be very extensive; that the vital forces are at the lowest ebb. No one yet has hesitated to perform tracheotomy in the laryngeal complications of enteric fever, which require it to save life, for these reasons."

The operative treatment of purulent peritonitis has been performed many times successfully by the gynecologist in conditions scarcely less unpromising. In point of fact, the objections that may be urged against laparotomy in intestinal perforation in enteric fever are no more forcible than those which would have been made use of at first against the same operation in gun-shot wounds of the abdomen. The courage to perform it will come of the knowledge that the only alternative is the patient's death. Dr. Wilson, with his advanced, pioneer views in this connection, does not furnish the first illustration of the physician taking the lead of the surgeon, furnishing the guiding, the impelling thought, not infrequently the courage.

About seven years ago the American

Surgical Association and the Association of American Physicians discussed, at the same time and in the same building, the relative merits of surgical and non-surgical interference in appendicitis, the medical body deciding in favor of prompt operative interference, the surgeons for delay. Almost coincident with Dr. Wilson's advocacy of celiotomy for the relief of intestinal perforation in typhoid fever, Dr. Lewis S. McMurtry, of Louisville, Ky., performed an operation, the subject being a physician, and found multiple perforations. He trimmed the holes, closed them with sutures, irrigated and drained, recovery following. A report of this case, with the patient present at the time, was made at the Cincinnati meeting of the American Medical Association.

There is another recorded case—that of McArdle, of Dublin. The history is one of abscess and multiple perforations following an accident, occasioned by jumping from a wagon.

The accident is not a very satisfactory explanation of the trouble in this case. The evidence better supports the conclusion that the case was one of walking typhoid fever with multiple perforations. I might refer to cases in my own experience and that of others, in which the history was doubtful. A considerable number of operations for circumscribed abscess have been reported as successful. Many of these cases are quite as questionable in their history as are those for which post-mortem operation has been done or refused.

In this connection Fitz says:

"Although the reported instances of the successful results of an operation for the cure of circumscribed peritonitis in typhoid fever are comparatively few, I have been able to collect a considerable number in which recovery resulted from resolution or from the spontaneous evacuation of the inflammatory product. In seventeen cases of recovery by resolution the peritonitic attack began in the second week in one, in the third week in eight, in the fourth week in one, in the fifth week in one, and in the sixth week in two. It began at the end of the fever in one, and during convalescence in three. Recovery took place in a week in one, in two weeks in three, in three weeks in two, in four weeks in one, and in two or three months in three. The length of time necessary for recovery in the remaining cases was not stated."

It is a mistake, on the part of gynecologists and obstetricians, to apply the term typhoid fever to certain septic conditions. The spongetent, the curett, the sound and a variety of minor gynecologic operations have been followed by septic conditions and abscesses, frequent pulse, high temperature and diarrhea—simulating typhoid fever.

Obstetricians are in the habit of reporting septic cases under the head of malaria. The recorded mortality is largely from the prolonged anesthesia of a patient already enfeebled and with a greatly weakened heart, and the great length of time taken in the operations. They will not stand prolonged anesthesia or a prolonged operation. In a large percentage of those dying after long anesthesia and operation, death is due to causes within the surgeon's control.

One of the common causes complained of is that of weak, unhealthy tissue, and the yielding of sutures. Herein lie two errors—the choice of needle and that of suture-material. The best needle is that from the woman's sewing-case—a fine, round needle, and 0 or 00 Chinese silk.

Early diagnosis, early operation, painstaking, rapid work will save many lives.

Courage goes hand in hand with reverence for human life. There is much force in what Napoleon said to Las Casas: "As to moral courage, I have rarely met with two o'clock-in-the-morning kind. I mean unprepared courage, that which is necessary on an unexpected occasion, and which, in spite of the most unforeseen events, leaves full freedom of judgment and decision." It is two o'clock-in-the-morning courage we need—the factor that goes largely to settle the result in many surgical cases for us is the lost quarter of an hour.

Sportsman—What are you fishing for? Farmer—Fish. Sportsman—But what kind of fish? Farmer—Fresh fish. —*Chicago Record.*

THE PERFECT SURGICAL NEEDLE; WITH REMARKS ON COMMON DEFECTS IN NEEDLES.*

JOHN B. ROBERTS, M.D., PHILADELPHIA.

Little attention has been given to the proper construction of the surgical needle, though it is an instrument of great importance. A perfect surgical needle should be adapted for use by the surgeon's fingers without the interposition of any other instrument; its point should emerge exactly where the operator wishes; it should quickly and easily carry the suture through the skin or other tissue, and should be serviceable for sutures of silk, catgut, tendon, silkworm-gut, or wire.

The first proposition condemns as imperfect all needles that require a needle-holder. It always surprises me to see an operator encumber his fingers with a needle-holder in suturing ordinary cutaneous wounds. The explanation is probably to be found in the unsatisfactory needles often employed. The fingers are always better than any other needle-holder, unless the stitch is to be introduced at the bottom of a cavity, where the fingers cannot reach the wound. In cleft-palate operations and in vaginal surgery, needle-holders are necessary. Under nearly every other circumstance it is better to introduce the needle with the fingers.

Accuracy in directing the point of a needle, after it is buried in the tissues, and in bringing it out at the desired spot, is best attained by using a straight needle. It is difficult to ascertain the exact position of the point of a curved needle when it is once out of sight. This is attested by the frequency with which operators have been stuck by the point of a curved needle making its exit at an unexpected place. This uncertainty is lessened, but not entirely obviated, by the use of needle-holders or needle-forceps, which prevent the needle turning after its point is buried. A straight needle, guided by the fingers, is the proper means of overcoming the difficulty.

In order to fulfil the third condition, the needle must be sharp, have an eye large enough to be readily threaded with catgut, and make an opening in the tough skin sufficiently large to allow the head of the needle, with the two thicknesses of catgut, to pass readily. If catgut can be used in the needle, any other suture will go through its eye.

Within recent years various forms of needles have been offered by instrument-makers, but all that I have seen are inferior to the glover's needles which I have always employed. Some so-called surgeon's needles require so much force to drive them through the skin that a needle-holder or needle-forceps must be used both to insert and withdraw them. Some have such small eyes that they cannot be threaded with catgut; others cut such a small opening in the skin that the double thickness of the suture at the eye makes it almost impossible to drag the needle through.

Non-chromicised catgut, when softened with water, is probably the most bulky suturing material that we use. Surgical needles should therefore have eyes which can be satisfactorily threaded with this suture. They will then answer well for any other.

The perfect surgical needle which I show is only a carefully made and slightly modified glover's needle—that is to say, the needle that has for many years been found most satisfactory to those who are continually sewing animal skins in the manufacture of gloves and leather articles. The requirements are practically those pertaining to suturing ordinary cutaneous wounds. I doubt if any argument would induce a workman who stitches leather gloves or furs by hand to exchange his straight needle for the needle-forceps and curved, or otherwise defective needles often seen in operating rooms.

A needle has a point, a shaft, and a head. In the last is the eye. The perfect needle shown has a three-sided

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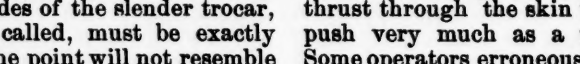
point, made like a trocar, and is very sharp. The sides of the slender trocar, as it may be called, must be exactly alike, so that the point will not resemble a bayonet, which has one of the sides wider than the other two. Some one, ignorant of the requisites of a surgical needle, has introduced to instrument-



makers a bayonet-pointed needle. It is, in my opinion, inferior to the glover's needle.

The trocar-like point should occupy above one-third of the needle's length. The greatest diameter of the point should be near its middle. Although the end of the point should be very sharp, its three edges should not be keen, lest they cut the fingers when the operator pulls the needle through the skin.

The three-sided point gradually fades into the shaft, which must be cylindrical, not flat, and have a diameter a little *less* than that of the point where it is largest. The shaft then gradually tapers down towards the head, which must have a little *less* diameter than the thickest part of the shaft. The eye must be large, and oval or rectangular; not circular. The head, at the sides of the eye, must not be caused to bulge outwards by the drill or punch which makes the eye. Behind the eye the head must be grooved on both sides; in the groove lies the thread, which consequently presents no shoulder to catch as the needle passes through the skin. There is a groove in front of the eye on each side to render cleansing easier and to keep it free from dried blood and dirt.

The reasons for the characteristics of this needle will be apparent if one thinks for a moment of the work that a needle is intended to perform. It must make a hole in skin, a tough, fibrous tissue. The skin is very different from the woven materials sewed by the seamstress or tailor by means of a round or cambric needle. The instrument used by the surgeon, when he wishes to puncture a subcutaneous cyst by a small opening, is a trocar. A needle should have a similar point, which should be thrust through the skin with a sudden push very much as a trocar is used. Some operators erroneously use a needle with the slow movement used in putting a pin into the end of a roller bandage.

In the second place, the opening made by the introduction of the needle must be enlarged so that the shaft of the needle and the eye containing the thread may be drawn through it easily. This point is attained by having the point increase in diameter like a pyramidal wedge. When sufficient diameter has been given to effect this object the needle tapers down. The eye, with the threaded suture, therefore requires less or very little more space in going through the skin than the thickest part of the point, and glides through without catching or requiring force on the part of the operator.

To get the best service out of a needle the operator should occasionally sharpen its point on an oil-stone; and always select a needle large enough for the work. If the skin is thin and soft, as in the eye-lids, a small needle may be used; but when the incision to be closed is in thick skin, a comparatively large needle is required to penetrate the tissues readily and easily.

A convenient method of preventing the needle becoming unthreaded, is to tie the short and long ends of the thread together at the eye by a half-knot. This is quickly done when the needle is threaded for use, and the half-knot is readily pulled out, if it be necessary to thread the same needle again after the suture has been used up. This tie serves to bury the thread in the grooves behind the eye. If a proper relation between the size of the needle and that of the thread exist, the knot will not catch as it is drawn through the skin.

In contrast with the perfect needle, I show a series of twelve needles, all of unsatisfactory shape, most of which are extensively used at the present time. Several are curved and hence difficult to direct, whether bent only at the end or throughout their entire length. One

has a beveled point like a hypodermic needle, is cylindrical except at the very ends, and is wider at the eye than anywhere else. Nothing could be less well adapted to the purpose of a needle for cutaneous wounds.

Another—the Hagedorn needle—has a slender rod-like shaft, with a point sharpened like that of a knife. It is sure to go through the skin with difficulty, because it must catch where the suture makes a shoulder or ledge at the eye; and is very likely to cut the surgeon's fingers when he attempts to pull it through the skin. I believe this needle was originally advocated because it cuts a slit at right angles to the wound and the stitch, which lies in the end of the slit, tends to draw its sides together. Other needles were said to be less desirable because they had a tendency to make a wound with its long diameter parallel to the wound to be sutured. The tension of the stitch would, it was assumed, tend to draw this puncture open, and afford an entrance for infection. This reasoning is merely theoretic and of no value. The thread, as a rule, nearly or quite fills up the puncture, and if the needle-wounds are exposed to infective germs, the thread itself probably acts as a route by which they enter the tissues. Metallic sutures are less liable to act in this way.

One of the other needles that I dislike is cylindrical and of greater diameter at the eye than at any other part. It's unavailability is apparent. It may not have been originally intended for surgeons' use, but I bought it at an instrument-maker's. The bayonet-pointed needle I have already condemned, though it is much better than the others. Another unsatisfactory form has a flat shaft and a point somewhat like the head of a spear. Its fault lies in the fact that its widest diameter is not in the same plane as that of the thickest part of the threaded needle, which is at the place where the suture occupies the eye of the needle.

Finally, I show three needles which have a trocar-like point similar to that which I call the perfect needle. They are, however, exceedingly bad, because the points do not make a puncture big enough to allow the shaft and eye of the needle to traverse the skin with ease. No adequate provision is made in them to dilate the wound or to have the after-coming head of less size than the shaft of the needle.

BILIARY CALCULI*

HENRY LANDIS, M.D., READING, PA.

Cholelithiasis is not a malady new to the profession, nor is it one of those, frequently described in the journals, which it falls to the lot of the physician to treat only once or twice in a lifetime. On the contrary, it is a disease of frequent occurrence, and I apprehend that many attacks of biliary calculi are treated without a clear diagnosis having been made. The subject which I have chosen is therefore of practical interest to all engaged in general practice. I propose to give a brief review of a few cases selected from my records, with an exhibition of some specimens.

Gall-stones may form in the gall-bladder, in the bile ducts, in the bowels, and even, though rarely, in the parenchymatous substance of the liver. Their most frequent lodgement is in the gall-bladder. In size they vary from that of a grain of sand to that of a hen's egg. When of the smaller size they are called biliary gravel or sand. In number they may vary from a single one up to several hundred. Their chief chemical constituents are cholesterin, the coloring matter of bile, biliary and fatty acids, and some of the lime and soda salts. Their color depends on their composition, and may be pearly, greenish-yellow, brown or black mottled. They are usually fria-

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ble, easily cut with a knife and of a greasy nature, feeling like soapstone. If there be only one large stone, its shape usually corresponds with that of the cavity containing it, being oval or ovoid. If there be three or four of medium size in the gall-bladder, they may be rounded on one side and flattened on the other like chestnuts in a burr. If there be a multitude in the biliary cyst, their general contour is globular, like those I exhibit to you, with facets on the periphery, indicating their points of contact with each other.

The etiology of gall-stones is obscure. In many of the cases which I have observed the subjects were not of the temperament that is usually called "bilious." Their origin is, however, believed to be due both to constitutional and local causes. Like all other pathologic formations, they start from a minute nucleus, and their growth is accomplished by a gradual accretion of their constituents, in layers, either by crystallization or by agglutination upon the surface. Stagnation of bile in the ducts and cyst, and a viscid condition of that secretion may greatly contribute to this result.

The presence of calculi in the hepatic cavities is not always menacing to life, and in many cases is not incompatible with fairly good health. Autopsies have shown the presence of large numbers in the gall-bladders of persons who had died of other diseases, and in whom no history of biliary calculi had been known. Then again, the stones may pass through the ducts, when yet small, without producing any epigastric pain, and be voided with the stools without the knowledge of the patient.

An attack of biliary colic is initiated whenever nature attempts to dislodge and pass through one of the biliary ducts a gall-stone having a diameter larger than the duct. This process may be inaugurated by the act of coughing, vomiting, inordinate laughter, strained defecation, etc., or by a fall or violent exercise.

Symptoms. — The most prominent symptom of a fully developed attack is the excruciating pain in the epigastric and right hypochondriac regions, often extending into the right scapular region and shoulder, as well as downward into the bowels. The extremities are cold, and the whole surface may be bathed in a cold, clammy perspiration. There is nausea and vomiting—sometimes persistent; a feeling of constriction of the chest; dyspnea and a sense of suffocation, with irregular respiration. The rate of the pulse is normal, or below, and labored; the temperature, subnormal. The sufferer often tosses about in bed or on the floor, with hands pressing upon the epigastrium, and moans or screams in agony. After the continuance of these symptoms, for an uncertain period—say from thirty minutes to three or four hours, or even several days—the torturing pain may suddenly cease. This usually indicates the escape of a calculus from either the cystic or the hepatic duct into the *ductus communis choledochus*, or from the latter into the duodenum. Sometimes, however, if the size of the calculus is greatly in excess of the caliber of the duct, it may slip back to its original location, as much to the relief of the patient as if it had escaped onward. If the original location had been the cyst, the stone may remain there for weeks or months afterwards, without creating any further disturbance.

Clay or ash-colored stools, jaundice, and bile in the urine, are other symptoms of importance. These occur only when a calculus is impacted in the *ductus communis* or in the hepatic duct. By the obstruction of the flow of bile into the bowels, the stools assume various light shades, as stated. By this obstruction, also, the bile is dammed up in the liver, and, in consequence of this backward pressure, that organ either ceases to secrete the bile from the blood or it is reabsorbed into the circulation, producing jaundice. Fortunately, the skin and kidneys assume the vicarious function of eliminating this foreign matter from the blood in the form of icteric urine and perspiration. When a gall-stone is impacted in the cystic duct, these symptoms do not appear, as in that condition the bile may continue to flow into the intestines through the hepatic and common ducts.

Diagnosis.—In the initial stage of biliary colic the affection may be confounded with cramp of the stomach, gastralgia, intestinal colic, renal calcu-

lus, and even, in some cases, with strangulated hernia. Differentiating circumstances, of course, exist; but, owing to a similarity in the condition of the pulse and temperature, in the pains, the nausea and vomiting, the cold perspiration and the inability of the patient to give an intelligent account of himself, a mistaken diagnosis may easily be made on a first visit. Later on, in the icteric cases, the clay or ash-colored stools, bile in the urine, and jaundice, make the case plain, and the voiding of stones confirms the diagnosis. A correct diagnosis is of the utmost importance in all severe cases, as it may ultimately aid the surgeon, whose knife is sometimes the *dernier ressort* in saving the life of the patient, when medical treatment has failed.

Complications.—When an impacted gall-stone has resisted all medical treatment for its removal, the period of dangerous complications has arrived, and the case is relegated into the domain of surgery. Chief among the complications are hepatitis, localized peritonitis, hepatic abscess and pyemia, ulceration from the cyst or ducts into some neighboring organ, general peritonitis from the escape of a stone, bile or pus into the peritoneal cavity, etc.

Since the recent advances in abdominal surgery, numerous successful operations have been performed for the relief of gall-stone and its complications. Dr. A. W. Mayo Robson, of England, who has operated about one hundred times, says: "A study of the cases operated on shows that where medical means have failed, surgery holds out a very good hope of success in nearly every complication of cholelithiasis, if the patient be not too much exhausted to permit of any major operation."

Medical Treatment.—When we are called to treat a well-marked case of biliary colic we should realize that we have on hand a very painful and formidable malady, which may, either primarily from shock, or secondarily as a result of associated complications, prove fatal. The treatment, therefore, must be prompt and energetic. This may be epitomized as follows: (1) Hypodermatic injection of one-sixth to one-fourth grain of morphine sulphate; (2) inhalation of chloroform and ether; (3) hot fomentations; (4) whether nausea and vomiting exist or not, frequent large draughts of warm water; (5) hydrarg. chlor. mite., grains five to eight; (6) two fluid ounces of pure olive oil every two hours; (7) alternating with the oil, grains fifteen to twenty of sodium phosphate; (8) the anodyne and anesthetic measures to be repeated when the pain demands it.

With reference to the *rationale* of this treatment I would say of the anodyne and anesthetics, and the hot external and internal applications, that the former not only render the patient insensible to the pain, but both they and the latter tend to relax the spasm of the ducts and thereby facilitate the passage of the stone. That olive oil dissolves cholesterin calculi, at a temperature of 98° Fah., outside of the body, I have demonstrated by experiment; and that it may insinuate itself into the ducts of the liver from the duodenum, if given in large doses, is quite probable. Whether it effects a slow solution of the stone, or facilitates its passage by lubricating the ducts, or by relaxing their spasmodic action, on the same principle that "oil on the troubled waters" stills them, I do not know. Nevertheless, I firmly believe that the oil is an efficient remedy in this disease. It is presumed that the oil should be a genuine, unadulterated article.

It is important that a thorough examination of the stools should be made in all cases. Every evacuation should be carefully washed, dissolved, and sifted, and this is a work that very few untrained nurses will faithfully attend to. The finding of the stone is no less satisfactory to the doctor for diagnostic purposes than to the patient for the knowledge that his enemy has departed. If a stone is large and has a smooth, rounded surface, we infer that no more are present in the cavity from which it came; if small and faceted, that more are to come.

Cases.—Mrs. W. B., aged sixty-seven, widow, was seized with an attack on May 8, 1892. After about ten days of suffering, during which time the usual symptoms prevailed, together with some pyrexia, the pain abated, and on May 23, she passed by the bowels the fract-

ured calculus which I exhibit to you in the box, which was entire when passed. The central crystalline part is pure cholesterin; the outer layer inspissated bile and fecal matter. It measures one and one-fourth inches in the long, and seven-eighths of an inch in the transverse diameter. Very little jaundice supervened during this first attack. The patient then improved and walked about the house and the yard. From June 15th to 22d she was again ill with symptoms simulating malaria, but again improved until July 1st, when she was seized with another fit of colic. In this spell the pains continued for several weeks, during which time gray stools and intense jaundice prevailed; hepatitis supervened, followed by abscess and pyemia, from the effects of which she died August 31st. The patient would not submit to surgical interference, and no autopsy was made.

My theory of this case is that the stone which I show you came from the gall-bladder, and that the second fit was occasioned by the impaction of another stone in the hepatic duct. This theory is strengthened by the fact that the voided stone is not faceted, and that light stools and icterus only occurred in the second fit.

Mr. G. J. E., aged sixty-nine, married, engaged in an active out-door occupation, of sanguine temperament and generally enjoying good health, in July, 1890, had a severe attack of biliary colic lasting several days, associated with ash-colored stools, bile in urine, icterus and the passage of half a dozen calculi the size of a pea. In July, 1891, while under treatment for fracture of the astragalus, he had another slight attack of colic, with light stools, but no icterus and no stones were found. His latest seizure began February 27, 1896, in which the colicky pains continued in variable paroxysms for four or five days. From the second day, icterus and bile in the urine appeared, with light stools, though not ashy. On the fourth day, calculi measuring from one-eighth to one-fourth inch in diameter, faceted, began to pass, and continued daily, in larger or smaller numbers, for four weeks. The total number found was 308, of which forty-four passed in one day. Along with these came about 150 granules of biliary sand or gravel, some of which I show you in the small vial. On the third day the pulse was eighty-eight, temperature 99.6, otherwise they were uniformly normal, except on the twelfth day, when a spurt of pyrexia ensued, with a temperature of 100.5, which was promptly arrested in a few days by cinchonization.

From the appearance of these calculi I infer that they had been lodged in the gall-bladder, and yet, while some of the colicky pains may have been produced by their passage through the cystic duct, there must also have been some obstructive impaction in the *ductus communis choledochus*, otherwise we should not have had light stools and icterus. There were no serious complications nor sequelæ in the case, and at this writing the patient is enjoying good health.

The treatment pursued in both these cases was substantially as that above outlined.

I present these two cases as of interest on account of the rather large size of the stone in the one case, and of the large number of them in the other. Larger stone and larger numbers in a single case have been reported, but they are rare.

DISCUSSION.

Dr. Landis distributed for inspection samples of gall-stones, one of which measured seven-eighths of an inch in diameter and one and a half inch in length. Another sample contained 308 specimens, varying from one-twelfth to one-fourth inch, with 150 smaller ones, both of the latter samples passed by a patient under the doctor's care. Also, two bottles were exhibited of olive oil, one containing a few grains of sediment, the other a partly dissolved gall-stone. A gall-stone measuring three-sixteenths of an inch, weighing two grains, had been placed in each bottle June 14. One vial was carried in the doctor's pocket (temperature 95°–98°) for five days, at the expiration of which time the gall-stone had entirely dissolved. The other vial, placed on the doctor's table, still contained one-half of the calculus undissolved.

DR. KEISER.—I know of no more important subject than diagnosis and treatment of biliary calculi, or the underlying cause which produces them.

There is a great difference of opinion in regard to the treatment. Ether and turpentine are worthless. The use of chloroform in small doses was exploded years ago by Troseau. The sovereign remedy is sodii phosphate, teaspoonful doses four times a day. It stimu-

lates the liver, promotes flow of bile, and prevents subsequent formation.

Wood recommended olive oil many years ago. You may have concretions passed during a course of olive oil which are not gall-stones, but the combination of cholesterin with the oil. The bile in children and adults is different in composition. That in a child does not contain so much cholesterin and has more solvent properties. The olive oil treatment is the treatment of quacks and charlatans. I remember a case of a friend of a friend of mine who was a spiritualist, and who answered an advertisement purporting to cure gall-stones. After sending $1 and a lock of his hair, he was recommended to take olive oil.

In almost all cases in which gall-stones are supposed to be present, and oil taken for their relief, concretions are found in the dejecta. The question is, Is this a case of *post hoc or propter hoc?* I don't mean to say the samples submitted are not gall-stones, but the circumstances seem suspicious; namely, the oil was given and the stones were passed.

DR. FRANKHAUSER.—I cannot understand how it is possible for the large specimen to have passed through the cystic duct and then by the common duct into the duodenum. The common duct is ordinarily not much larger than a crow quill. I have never seen any calculi the size of specimen in any autopsies where I have been present. I don't understand how the oil can pass up the common duct or how it is able to relieve spasm or reach the calculi in order to dissolve it.

I have found equal parts of chloroform and alcohol given in dose of teaspoonful every fifteen minutes in hot water quite as efficient as morphia to relieve pain.

DR. CLEAVER.—I would like to know how olive oil gets into the liver as olive oil.

DR. BEAVER.—I had a case seven years ago, very severe attack, jaundice, etc. I had read so much about olive oil I determined to try it. I got the patient to gulp down six ounces in the evening, in the morning six ounces more, and directed the feces to be watched. They brought me a great mass of material the next morning and I thought I had found a mine of gall-stones. I had the material examined and did not find a single crystal of cholesterin, and the supposed gall-stones resolved themselves into little pieces of soap. I object to making a soap factory of my patients. Another case I remember where the patient had chronic lithiasis, was losing flesh, etc., was treated with fifteen drop doses of chloroform for two or three months and got entirely well.

DR. ROBERTS.—I see occasional cases of gall-stones. I remember one case in the hospital some years ago which was given olive oil and sodium sulphate. The next morning they brought me a handful of something supposed to be calculi. I recognized immediately that they were not calculi. It was then supposed that they were portions of suppositories which had previously been administered.

DR. LANDIS' REPLY.—All I have to say to the objections made by those who, as the result of the administration of oil, get soap and no gall-stones, is that they must have been mistaken in their diagnosis. The fact that oil produces concretions with the fatty acids of the bile does not militate against its usefulness in dissolving the biliary calculi, and I see no insuperable objection to the possibility that the oil, being present in large quantities, should by peristalsis be forced up through the common duct.

A vote of thanks was given Drs. Roberts and Landis for their valuable papers.

SCHLEICH'S FLUID IN OPERATIONS ON THE CERVIX.

S. D. WEST, M.D., PHILADELPHIA.

In the latter part of last March Mrs. H., aged twenty-five years, mother of one child, twenty-two months old, came under my care, suffering of the usual nervous phenomena consequent upon lacerated cervix. Examination per vaginam revealed bilateral laceration; on the left, extending up to and involving vaginal attachment to the uterus; on the right, the cervix only. The anterior and posterior lips were greatly enlarged, indurated and everted, the lacerated surfaces covered with exuberant granulations extending up to and involving the endometrium.

As she was of a timid and nervous temperament, I did not acquaint her with the true condition of the cause of her suffering, but simply assured her that in the course of two or three months I could restore her to her usual health. (I, however, informed her mother of her true condition).

Her general system responded promptly to tonic treatment, and the local application of monochloracetic

acid followed by tampons of absorbent cotton saturated with 20 per cent. glycerole of ichthyol; the latter renewed every second day, the former every sixth or seventh day. Under this course of treatment, covering a period of some six weeks, she improved most rapidly, and became hopeful of a speedy recovery.

As the parts were now ready for the operation of repair, I told her that it would be necessary to close up the lacerations, and, in order to do so, it would be best for her to take an anesthetic, to which she objected, and I could bring no argument to bear that would have the effect of reconciling her to the operation under an anesthesia. Seeing that her anxiety over the operation was causing her to lose her lately acquired physical strength, I decided to use Schleich's fluid instead of ether, to which she assented with delight.

Consequently, on May 25th, assisted by W. C. Mitchell, I injected half drachm of Schleich's fluid into both the anterior and posterior lips, and in twenty minutes the parts were wholly anesthetized. Now, taking hold of the cervix, drawing down the uterus to the vaginal orifice, I pared off the lacerated surfaces, including the cicatrix, at the upper angle, and brought in apposition the freshened surfaces of the left laceration with two deep silk sutures and three superficial catgut sutures, and the right laceration with one deep silk suture and two superficial catgut sutures. The operation was not productive of much, if any, pain, the only complaint made by patient being of a "dragging down sensation across her hips," which was due to the tension made upon the uterus to hold it in a fixed position necessary to the operation.

Primary union followed; the sutures were removed on the fifth day, and on the seventh day I sent patient to the seashore for the season. She wrote me a few days later, saying that "she was getting along very nicely."

The freedom from pain during the operation, the ease with which the operation was performed, the absence of nausea and vomiting consequent upon the use of anesthetic, and the prompt union of the parts, is my apology for reporting so common and every-day operation.

I am free to say that in the future I shall use more Schleich's fluid instead of ether in the repair of lacerations of the cervix.

COMMUNICATIONS.

A NEEDED HOSPITAL.

The Memorial of the Committee of the Medical Society of the Commonwealth of Pennsylvania, to urge upon the Legislature the urgent necessity of a hospital for the acute, the convalescent, the chronic and the epileptic insane of the counties of Potter, Tioga, Lycoming, Clinton, Centre, Clearfield, Jefferson, Indiana, Cambria, Blair, Huntingdon, Somerset and Bedford, respectfully represents:

It is a maxim of Common Law, founded on sound common sense and eternal justice, that the guardian is bound to make the best provision possible for the comfort and welfare of his ward.

If the individual is thus bound to execute the law it follows, as a necessary inference, that the community and the Commonwealth, which is the sum total of all the communities within its limits, is also bound to a rigid execution of the same law.

The mentally disordered are the wards of the Commonwealth, and, while there may be some who by reason of peculiarly favorable circumstances may not be classed in that list, the great majority, differently circumstanced, require all the aid and support which the Commonwealth can give.

The citizens of this Commonwealth

have not yet risen to a full comprehension of the nature and extent of the mental disorders which prevail in different sections of the Commonwealth, and, for that reason, the provision for the care and treatment of those so afflicted has not kept pace with the number for whom such provision is really needed.

It is an undoubted fact that the first institution for the cure of this afflicted class was established by private munificence in Philadelphia in 1752, but the Commonwealth did not assume any such care until the establishment of the hospital at Harrisburg in 1845, the bill for the erection of which had passed several years before that date. An effort had been made in this direction in Philadelphia, between 1835 and 1840, but no distinct progress was made in it.

The steadily increasing population soon demanded more extended accommodation, but the absolute necessity of such extension was not fully realized by the law-making power, and while efforts in that direction were made from time to time, they did not reach to the full reality of the felt want and actual condition of affairs.

It is needless to go into the history of the establishment of the different hospitals for the insane in the Commonwealth further than to say that in the provision by each one, only a small part of the mentally disordered were provided for as they should have been.

When the Act of Assembly passed in 1883 went into operation, the committee on lunacy decided that all the insane in the poor-houses should be transferred to the different State hospitals, thus crowding the wards of each with a class for whom no medical or hygienic treatment could avail.

It was overlooked or forgotten that the steady increase of the mentally disordered would soon require more ample accommodation than was then provided, and that for this class of cases, occurring constantly in every community, such provision should be made as would give them the benefit of treatment at the earliest period, and thus more probably insure restoration.

It is a fact of daily, practical experience, that the sooner a case of mental disorder is placed under proper treatment, the more probable the prospect of restoration, and every month and year of neglect adds to the doubt. It is worse than useless; it is crime against humanity to calculate probabilities in such conditions. The disorder is there, it will go on its course steadily and regularly unless the proper means are used to check it, and all dallying with faint hopes of what may be but never comes, will only lead to distress and disappointment.

The wards of all the State hospitals for the insane are overcrowded, several of them greatly overcrowded, by reason of the number sent to them who have gradually become insane in former years, and as they have been better cared for in the hospitals than formerly, they have improved in bodily health, and are in better physical condition, with the prospect of long continuance.

The yearly admissions of each hospital will average two hundred, and the discharges much less, making in each hospital at the lowest estimate, an addition of fifty. The ratio of mortality will be about one-fifth of the whole number under treatment during the year. There are then three factors to be taken into consideration: The steady population of chronic cases, the yearly increase from those admitted who do not recover, and the number of acute cases which may be admitted.

Here, then, is a complex problem to be worked out, which requires more earnest thought and deliberate consideration than has heretofore been given to it, with the avoidance of all theories of those whose zeal is greater than their knowledge of actual conditions.

The first two items can only be changed by the mortality in the first, and the increase in the second by causes which cannot be reckoned on, so that the amount may be said to be very nearly stationary, leaving the third as the most important factor to be met in all provisions for the insane.

Mental disorders are often very insidious in their origin, and to be detected only by a careful study of the mode of thought, the conduct and conversation of the individual when compared with the state of mind of that individual when he was acknowledged to be in good mental and bodily health.

This stage is often very much neglected on the plea that it is only some eccentricity or peculiarity which, after a time, will pass away; but, unfortunately, it does not pass away unless proper care and treatment are adopted. To the neglect of this care must be attributed so many cases of mental disorder which the friends insist are quite recent, when, in reality, the aberration of mind and the peculiarities of conduct have existed for some time and are only admitted when a sudden outbreak calls attention to the existing condition.

It has been proved by the most extensive experience, carefully collated, that when treatment is commenced in the earliest stages of the disorder, like other diseases, mental disorders can be cured in the great majority of cases, unless there is some special organic disease. Experience and observation have also shown that restoration, unless in a few exceptional cases, can be more readily and certainly effected by treatment in hospitals properly organized for the purpose, than in private families. A large number of the insane who are now a burden on the community in consequence of long-continued insanity, would, in all reasonable probability, have been restored and become useful members of the community, if the means had been provided by which they could have had prompt treatment in the early stages of the disorder. The only certain mode of preventing the increase of mental disorders in those who now constitute the community, is to make such provision that all can receive careful and skillful treatment as soon as the symptoms of the disorder appear.

It is a fact established by universal experience, that the majority of the insane in any given hospital are derived from the section of country more immediately adjacent to that hospital, so that it may be regarded almost as an axiom, that a hospital should be placed as near as may be, convenient of access and supplies considered, to the centre of population of the district it is designed to accommodate.

But it has also been clearly established by careful calculations of the admissions in existing institutions, that one in 1690 of the population becomes insane in each and every year, so that in the same population there will be within a fraction of 180 who will become insane in that district in each year, and will need medical care and treatment. If that number have the requisite hygienic and medical treatment in the earliest stages of the disease, 144 will in all probability be restored, while thirty-six will remain insane or die. But where they are to receive that treatment it is impossible to say. A few may be accommodated in the already overcrowded hospitals in other parts of the State, but for the remainder the only prospect is the very dreary one of remaining insane for the rest of their lives, a burden and source of grief and annoyance to their families and the communities in which they reside. This is neither just nor humane. If the construction of a hospital could be commenced at once, it would require between three and four years to have it ready for the reception of patients, and in that time what an amount of distress and suffering must be experienced, and how many will be added to the already large number of chronic insane, chronic simply because they have been denied the right to receive that treatment which would have made them useful members of the community, and changed them from consumers to producers.

But the economic aspect of the subject demands careful consideration — the amount of money to be saved to the community by the prompt restoration of health and mental soundness. Every person becoming insane deducts so much from the producing power of the community, and is to that extent an incumbrance or mortgage on the property and income of the Commonwealth or some of its parts, collectively or individually, to the extent of the cost of his or her support, so long as the insanity shall continue. The individual's estate pays, if it can, but, if not, the public must, for the body politic is the bondsman for every one in sickness and poverty, to pay what he cannot.

The citizens are, very naturally, jealous and alarmed at any increase of the State debt; but here is an incumbrance on the property of the different parts of the Commonwealth, and a debt which should touch them with greater alarm and jealousy, and which they should insist on being discharged in full before

any other. This debt to suffering humanity, while not so prominently brought forward as the bonds are quoted on the exchange, is one which every prudent citizen, who looks to the best interests of the State, would seek and hope to have liquidated as promptly as possible, for the obvious reason that it is a heavy drain on the resources of the community, and while it continues to burden it, it by so much incapacitates its members from active investment of a profitable character. If it be asked in what the profit consists, it is readily answered: In the removal of so large a number from the class of consumers and placing them in the class of producers and tax-payers, and thus enabling them to aid in the development of the resources of that part of the State and add to its material wealth.

But it is not alone those who become insane who are a burden on the resources, but the majority of them have families who are dependent on their labor for their daily support; and if this support be withdrawn and not again renewed, these families will necessarily become an additional burden on the community in which they reside, and thus abstract so much more from the ability of that portion to add to the general wealth.

The irresponsible character of insane persons, and the risks to families and the community from the perverted fancies of so many of this class, demand that means be provided for the full protection of the community from all danger to life and property which may be likely to rise from this source.

The cost of keeping an insane person at home, in a poor-house or a jail, is not less than three dollars a week on the average, and this must be multiplied by as many weeks as the insanity shall continue. The average duration of life of an insane person, not cured, attacked between twenty and thirty, is 21.31 years; attacked between thirty and forty, is 20.64 years; attacked between forty and fifty years, is 17.65; that is, an insane person, when taken near twenty to thirty years old, will, if not restored, live on an average, 1118 weeks, and will cost $3,354 for his support. Those from thirty to forty when taken, will live 1073 weeks, and cost $3,219; and those who are from forty to fifty when taken, will live 717 weeks and cost $2,151.

These are sums which the people must pay; they are debts incurred the moment the man becomes insane, and are a mortgage on the public property until these patients are restored. This, however, is not all the cost of insanity neglected and uncured; the Commonwealth loses all the services of these men, all that they would have earned during a sane life if restored. The probable longevity or average time sane men live, after twenty to thirty, is 39.12 years; after thirty to forty, 32.76 years; and after forty to fifty is but 26.06 years. Then the public must not only pay the cost of supporting an uncured insane person, when between twenty to thirty years for 1118 weeks, but lose his earnings for 2034 weeks. The earnings of course, will vary with person, capacity, position and circumstances. In England, the prospective earnings over and above the cost of support of an unskilled laborer at twenty-five years of age, are worth $1,157; that is, an annuity equal to this profit on his labor through his probable life could be bought at that age for this sum. The earnings are more in America; the cost of living for laborers and others, is about the same; hence the profits of life are greater and the annuity worth more. We may safely add fifty per cent. more, and estimate the annuity as worth at least $1,800 for the unskilled laborer; for the mechanic, trader and professional man, is is worth more.

Then, if an unskilled laborer becomes insane at twenty-five, this annuity is lost to himself, to his family and the body politic, unless he be restored and the annuity regained.

Let us next consider the cost of restoration. For those whose disease was less than one year before admission, the period of restoration has been found, on calculation of returns, to have been somewhat over five months. But if taken earlier and treated as promptly as fever, pneumonia, etc., the time required for cure is much less. The cost of this restoration, even including interest on the hospital and all other expenses in our State institutions, will not exceed five dollars a week; that is about

$130 for each person restored. If taken early, 80 per cent. at least can be restored, and 20 per cent. will either die or remain insane for life.

The recent cases of insanity are always more expensive to take care of, from the greater attention required, their disposition to destroy clothing, furniture and fixtures. The cost of the curative experiment must include both that paid for those who are curable, and for the attempt to restore the incurable during an average period, required to determine the question of their curability—say two years; or for such as are restored to power, $200.

It must, however, be remembered, that this estimate of the cost allows the whole expense of the hospital to be five dollars a week for each patient. In calculating the cost of a cure, we should only include the increased expense of support for this purpose, over and above what must necessarily otherwise have been incurred. Whether they cure or attempt to cure or not, the public must pay three dollars a week for the patient's support, and the curative experiment costs only two dollars a week in addition, and only so much then should be charged to place and means of restoration. The cost then should be stated as $104 for each one restored. Taking the English calculations of the present worth of a laboring man at twenty-five, and adding the difference of earnings in this country, an annuity equal to the excess of his earnings over the cost of his support through his probable average life, thirty-nine years, can be bought for $1,800. The present worth of the cost of his support, if insane, $150 a year, through his probable insane life, twenty-one years, will be $1,834. Both these are lost, equal to $3,634, if the man is attacked with insanity and not restored.

Such being the facts of the case, the advantage and economy in every point of view of treatment in the early stages of the disease, the necessity of special provision of that treatment, the overcrowded condition of all the hospitals for the insane in this State, and the consequent inability of the citizens of the counties of Potter, Tioga, Lycoming, Clinton, Centre, Clearfield, Jefferson, Indiana, Cambria, Blair, Huntingdon, Somerset and Bedford, to secure admission for those of their fellow-citizens who are now suffering from this most afflictive of all diseases, and for those who may become insane in the course of the year to come, and in subsequent years, the Committee feel that they cannot too strongly urge upon your honorable body the necessity for the passage of a bill at an early day, providing for the appointment of Commissioners to select a site and build a hospital for the insane of these counties, which will be an ornament to the Commonwealth and will confer untold benefit on this section of our beloved Commonwealth.

JOHN CURWEN,
S. S. TOWLER,
H. G. MCCORMICK,
T. D. DAVIS,
JAMES FULTON.

NOTE.—The vital statistics given in this memorial were prepared many years ago by that eminent vital statistician, the late Dr. Edward Jarvis, of Massachusetts, and have been used in other memorials of this character in this State at long intervals.

The cholera returns show that the epidemic is well on the decline in Egypt, the weekly mortality having fallen from 2,000 to 600 throughout all Egypt, and there being only 133 cases remaining in all the hospitals. The vigorous measures adopted by the Sanitary Department have, according to the *Times* correspondent, allayed the momentary anxiety caused by the recent small outbreak in Cairo, where on September 12th only fourteen cases with twelve deaths were reported, showing a diminution of 50 per cent. during the week. Tradesmen and others are, however, despondent less needless fear should greatly diminish the numbers of the usual winter tourists, although the risk of infection to Europeans is practically ended, and everywhere the epidemic shows a marked decline day by day. The English chief of the Sanitary Department states that it is the official opinion that by November or December the epidemic will have completely disappeared.—*British Med. Journal.*

CURRENT LITERATURE CONDENSED.

Hydrozone in Gastric and Intestinal Disorders.[1]

A period of nearly twelve years has elapsed since I first began the clinical use of hydrogen dioxide, generally referred to at that time as the peroxide of hydrogen. In 1887 I published a paper giving a detailed account of several cases in which it had been employed by inhalation, but even then I was thirty years behind the report of Dr. (now Sir) Benjamin Ward Richardson, of London, who had made a thorough investigation of its antiseptic, detergent, and healing properties. Notwithstanding the fact that this preparation had been known to the medical profession for that length of time, it had achieved little or no reputation. This, however, may be explained by the fact that the discovery preceded the dawn of bacteriology. Indeed, I was one of the early contributors to medical literature relating to the clinical value of this product, and since that time I have published a number of articles, embracing practically every application, both medical and surgical, to which hydrogen dioxide is adapted.

In the present communication it is my object to direct the attention of the profession to its special value in the treatment of gastric and intestinal disorders. In gastritis, for example, there is no antiseptic which can be given with so much benefit as this remedy, because its effect is immediate, and even in considerable doses it is absolutely harmless. The same is true in regard to its employment in typhoid fever, cholera infantum, and Asiatic cholera. In the latter disease its efficacy has been thoroughly demonstrated by a number of well-known physicians, and its applicability in cholera infantum is well known to those physicians who have given careful attention to the most modern methods in the treatment of this class of cases.

The following brief notes will be sufficient to indicate the availability of this remedy in the treatment of the disorders already mentioned, although, in view of the fact that hydrozone is a more concentrated product, and withal a permanent solution, this latter remedy should have the preference. It contains at least double the volume of nascent oxygen which has heretofore been the standard for the medicinal peroxide of hydrogen.

In gastritis, either acute, subacute, or chronic, we have to deal with an unhealthy condition of the lining membrane of the stomach. The inflammation is attended with an increased output of mucus, which seriously interferes with the normal functions of the peptic glands. By the introduction of a small quantity of hydrozone, in the strength of one part to thirty-two parts of boiled or sterilized water, this objectionable mucus is at once destroyed by the action of the oxygen which is released, and the contents of the stomach remaining are promptly discharged into the small intestine. A patient suffering from gastritis should take at least half an hour before meals from two to four ounces of diluted hydrozone (one to thirty-two) and lie on the right side so as to facilitate the action of the stomach in discharging its contents. In chronic cases with a large output of gastric mucus, and particularly in gastric ulcer, concentrated solutions are not well borne at first, owing to the formation of oxygen gas, but this difficulty disappears with the continued use of the remedy, and no treatment of gastric ulcer can be regarded as complete without the local employment of hydrozone.

The antiseptic properties of hydrozone thus used are sufficient to destroy the micro-organisms and leave the stomach in a healthy condition for the absorption of nutritive pabulum. All forms of fermentation are promptly subdued by the active oxidation resulting from the liberation of nascent oxygen. The patient is then in a condition to take suitable food, which should be nutritious and easily digested, liquids being preferred until the active symptoms have subsided. Later, small portions of solid food can be ingested, but all food stuffs of a starchy character must be thoroughly masticated, in order

[1] Aulde in *New York Medical Journal.*

to secure the action of the salivary secretion upon the starch granules, breaking them up, and lessening the tendency to fermentation in the stomach. After taking a meal, a patient with gastritis should follow it with medicinal doses of glycozone, which contain, in addition to the nascent oxygen contained in hydrozone, a percentage of glycerin which favors osmosis and assists in re-establishing the functional activity of both the peptic and mucous glands of the organ.

In the treatment of cholera infantum, typhoid fever and Asiatic cholera, the same general plan should be adopted in dealing with the stomach, always bearing in mind the necessity for having the patient remain in the recumbent position and on the right side for at least half an hour after the ingestion of the solution. In addition, however, to the preliminary treatment of the stomach, the same solution (one to thirty-two) is used as an injection into the lower bowel, care being exercised to insure its introduction as high up as possible. This can be managed by having the patient lie on the left side, with the hips well elevated, and the employment of a long, flexible rectal tube. In this manner we secure and maintain an antiseptic condition in both the stomach and large intestine, the importance of which will be understood when we consider the large number of micro-organisms which grow under these favorable conditions with such remarkable rapidity.

When deemed advisable, the solution introduced into the lower bowel may be combined with large quantities of either hot or cold water, which enables us to obtain the benefits of irrigation in addition to the antiseptic effects. These irrigations may be employed as frequently as deemed advisable by the medical attendant, but they will usually prove satisfactory if administered at intervals of four hours.

The Sunday Penalty of Irregular Feeding.[2]

The American people pride themselves on being enlightened and highly civilized, using their reasoning powers to such advantage that by systems of quarantine, vaccination, etc., they are able to exclude or control almost all epidemics of infectious diseases. These intelligent people would resent a statement that in some of their routine customs they were only slightly above the level of barbarians, yet the unhappy truth remains that such a statement may be made without fear of refutation.

In our evolution from barbarism we have created or established a race of people with whom regularity in eating and sleeping is the fundamental essential to good health. The digestive secretions are poured out and ready for action with the regularity of clockwork, so that a man can tell by his feelings almost the minute at which his dinner hour comes. If this regularity, so long established, is violated, and the regular dinner hour is passed without food being ingested, the violator not only suffers bodily discomfort, but an actual injury occurs to the digestive apparatus. The stomach and other secretory organs resemble the muscular system in a certain degree, as they must have a certain amount of work to perform in order to keep in the best working condition. Also, like the muscular system, overexertion leads to disorder, and disuse invites a variety of pathological conditions. But, unlike the muscular system, the digestive organs have been so educated by custom that they require, not only a definite amount of work to perform, but an absolute regularity in the time of performing that work. The gourmand who overtaxes his stomach is certain to meet his retribution. The drunkard who stimulates the mucous membrane of his stomach with alcohol and gives his secretions nothing to act upon in the way of solid food, finds shortly that his stomach refuses to secrete at all, as just punishment for his abuse and negligence. Almost as certain a result, if not so rapid, is sure to follow indiscretions of irregularity in eating. The stomach, having poured out its secretions at the customary time, waits only a short time before it allows such secretions to be absorbed without the accompanying production of nutritious pabulum that goes to assist in the formation of more secretions. After a few such experiences the secretions become less in amount and in activity, even when food is introduced into the digestive tract, and we have resulting

[2] Editorial in *Medical Record*.

indigestion, so common in all communities.

The dyspeptic is cautioned and advised by his physician to take his meals at absolutely regular intervals, not only as a treatment of existing evils but as prophylactic against future disorders. One indiscretion of irregularity in such cases often causes the patient a week of misery. If this regimen is a standard prophylactic with confirmed dyspeptics, how much should any one in our artificial civilization allow himself to deviate from so simple a rule, when an absolutely normal stomach at all times is almost unknown?

Yet this very invitation to gastric disorders is issued every seventh day by ninety-nine per cent. of the people of this country. Once in seven days comes our so-called day of "rest"—the day on which the three regular meals at morning, noon, and night are replaced by a vicious system of late rising and abstinence, followed by gluttony. The gastric secretions know nothing of a seventh day of rest. They are ready at the customary six-day morning-breakfast time, but no food comes to them and they are absorbed. A second period of the day comes and the same process is repeated, with the additional injury that from two to four hours after the customary meal the stomach is loaded unusually full of food, whereas the secretion is no longer there in sufficient quantity to digest it. The result is the regulation Sunday afternoon discomfort of gourmandizing, with the accompanying absence of appetite for the evening meal. What wonder that the following day is "Blue Monday!"

The Continued Increase of Cancer.[3]

In 1840 cancer caused 2,786 deaths, the population being 1 in 5,646 of the total population, 1 in 129 of the total mortality, or 177 per million living.

In 1894 it caused 21,422 deaths, the proportion being 1 in 1,403 of the total population, 1 in 23 of the total mortality, or 713 per million living.

Thus the proportional mortality now was more than four times greater than it used to be half a century ago. In this respect its position was unique; no other disease could show anything like such an immense increase. It seemed certain that, if unchecked, cancer would ere long become one of the commonest diseases of modern communities. The subject was one that required thorough investigation on a larger scale than could be undertaken by an individual. It was a matter of national concern.

Mr. Williams then referred to the remarkable decline in the death-rate from phthisis and tuberculous diseases that had coincided with this great increase in the cancer mortality. It seemed to him exceedingly probable, from considerations derived from the study of the family history of cancer patients, that a large proportion of those thus saved from tubercle eventually perished of cancer and insanity, and he thought that the increase in the latter diseases had largely been brought about in this way.

In discussing the causation of these extraordinary occurrences, Mr. Williams said, although we were not in a position to solve the problem in a thoroughly scientific manner, that we need not be deterred on this account from formulating such explanatory conceptions as, after careful study of the subject, seemed likely to be useful. He thought it improbable that such conditions were directly ascribable to any single causative factor. The conclusion he had arrived at was that the increase of cancer had sprung out of impulses generated by the sudden and violent environmental changes associated with the transition from the agricultural to the industrial mode of life, which certainly was one of the most profound and far-reaching vicissitudes that the human race had ever experienced. Industrialism acted injuriously on the health of those exposed to its influence by inducing certain degenerative changes, which rendered those effected incapable of properly resisting tuberculous and other morbid excitations. He believed that defective cellular metabolism was at the bottom of these changes; and this was the common root whence such diverse morbid manifestations as tubercle, cancer, and insanity sprang. In times of national prosperity the evil effects of industrial conditions of life were to a certain extent mitigated by sanitation, good feed-

[3] W. Roger Williams, F.R.C.S., Preston. *British Medical Journal.*

ing, etc. Thus many of those who had acquired morbid predisposition nevertheless escaped destruction. It was from these persons and their descendants that the great cancer army was constantly being recruited. Hence there was some truth in the curious paradox that a high cancer mortality was an indication of good sanitary conditions. No single factor was more potent in determining the outbreak of cancer in the predisposed than high feeding. He thought that the gluttonous consumption of meat, which was such a characteristic feature of the age, was especially harmful in this respect. Statistics showed that the national meat consumption had now reached the amazing total of 126 pounds per head per year. When excessive quantities of such highly stimulating forms of nutriment were ingested by persons whose cellular metabolism was defective, Mr. Williams thought it likely that it might excite in those parts of the body where vital process was still active, such excessive and disorderly cellular proliferation as would eventuate in cancer. No doubt other factors co-operated, and among these he would be especially inclined to name deficient exercise in the open air.

A Case of Tuberculosis by Ingestion in a Little Girl of Sixteen Months.[3]

The parents of the patient were healthy; among ten children, one girl of three years had died of tuberculous peritonitis; another was affected with coxalgia. The patient, when nine months old, had been treated for tuberculous adenitis. When she came to the Children's Hospital she was in a cachectic state; large ganglia of the neck, profound ulceration of the superior gums extended to the palatine arch; nothing abnormal found in the examination of the thorax. There was a microadenia in the inguinal regions. The belly was distended and furrowed by large veins; there was diarrhœa, but no fever. The child died a few days after entry into the hospital. At the autopsy very large tuberculous mesenteric ganglia were discovered. Several large ganglia were also seen, adherent in the ileo-cecal angle; the ileo-cecal valve was completely surrounded by a tuberculous ring of ulceration; there was a slight ulceration in the cavity of the appendix. The whole length of the ileum was covered with large irregular ulcerations; these latter lesions were less numerous upon the jejunum and the duodenum. Nothing abnormal in the liver, the spleen or the kindeys; there were some transparent granulations upon the lungs.

3 Translated for St. Louis Clinique by Rutherford Gradwohl.

Being requested to make a five-per-cent. solution of cocain in lard-oil recently, C. E. Sage (*Pharm. Jour.*) found that the alkaloid was scarcely soluble in that liquid, except at the temperature of a water-bath, and even then it took some time to dissolve, and on cooling, the alkaloid crystallized out again. Some authorities state that cocain is soluble in one in twenty of vaselin, and the author has many times prepared such an ointment; but the fact that the alkaloid crystallized out from a lard-oil when dissolved in it in the same proportion suggested the microscopical examination of some "vaselin-cocain," one in twenty, with the result that it was found to consist of a mass of minute crystals, interspersed with vaselin. The vaselin used for preparing the ointment showed no crystals when examined in the same manner, and a chemical examination of the cocain used showed it to be pure. An ointment was made of the same strength with lard, and, examined microscopically directly it was set, showed no signs of any crystals of cocain; but after standing two hours, the alkaloid began to crystallize out in well-defined crystals. Solutions in olive oil and in castor oil were also made, and found to be perfectly stable. From these results it seems that neither vaselin nor lard is a suitable solvent for the preparation of an ointment of cocain; and that the idea that such a preparation is better than one containing the hydrochlorate dissolved in a little water and rubbed up with the fat, is fallacious.

"Business is in pretty poor shape," remarked the energetic man. "Yaws," replied Cholly Dawdle. "I've always heard it was bad form."—*Washington Star.*

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A. L. BENEDICT, A.M., M.D.
SAMUEL M. WILSON, M.D.

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PHILADELPHIA, SATURDAY, NOVEMBER 7, 1896.

EDITORIAL.

THE *ARGUMENTUM AD HOMINEM* STILL THE MOST EFFICIENT METHOD.

There is a useful but somewhat exasperating quadruped whose logical processes begin with the reception of a blow and, after the sensory nerves have carried their message to the brain, end with the discharge from the cerebral cells of a motor impulse. Although the ultimate product of an "ass-ending" evolution, this animal cannot, as a rule, reason from analogy. It is not enough for him to observe that certain sins of omission and commission on the part of his brethren are punished by the goad or the fence-rail. His acts must be in response to sensory disturbances in his own skin. Neither does he possess the faculty of reasoning for the present from the experience of the past. The fact that he was beaten yesterday may, perhaps, be remembered, but it does not serve as a warning to act to-day in anticipation of a blow. Neither are his nerve-corpuscles capable of education to the point of appreciating and acting in accordance with a mild stimulus. Not only must the blow fall on his own hide, and at the time when action is desired, but he must be hit hard. The necessity of combining these three factors to initiate mental processes is due to a

characteristic briefly termed obstinacy, a trait not only of these four-footed animals, but, in sooth, of many human beings.

If the quadrupedantic philosophers could speak as loudly as do the bipeds, they would, perhaps, excuse their slowness to take a hint from the experience of themselves or others, by some such argument as the following, which, we believe, we have heard in substance from many men who call themselves conservatives: "True, I have seen Thomas, Richard and Henry pounded with clubs because they were balking, and have seen them finally forced into action, but there may have been circumstances in their cases with which I am not conversant and which, doubtless, vitiate the conclusions apparently to be drawn from their fate. Moreover, we must not be led astray by the fallacy of *post hoc, ergo propter hoc.* The fact that they balked and were beaten, then pulled ahead and ceased to be beaten, is undoubtedly to be explained as a mere coincidence. Then, too, in awaiting the actual fall of the blow and in heeding it only when it is severe, do I not show my fortitude?" And so, poor John, walking with his comrades three abreast along the bank of the Erie canal or pulling a street-car in a southern city, remains the incarnation of that mental attribute to which we have alluded.

Small-pox, a disease which has scourged the world for centuries, which once decimated populous cities and left its disfiguring brand on the faces of most of the survivors, has become practically an extinct disease. Let us place ourselves in the attitude of the most violent opponent of the method to which this extinction is attributed and see how far we can withstand the brute force of facts. The attempted prevention of variola consists in an operation more or less bloody and cruel, to which fanatical believers first subjected themselves and sacrificed their innocent children; then, growing stronger in influence, they secured the passage of laws which now, in every civilized country, with an absolute disregard for personal liberty, compel all persons to undergo this heathenish torture. Not only temporary suffering, but actual disease is inflicted, lasting for two or three weeks and terminating, once in a million times, in death. Not only does physical nature resent the pain and discomfort of vaccination, but the spirit cries out against accepting disease from a brute animal. The sufferings of the heifer, the agony of the child, struggling against the knife rasping at his tender flesh, the black velvet band, which the belle in evening dress wears as a badge of mourning for the disfiguring mark upon her left arm, all these and more distressing pictures arouse our deepest sympathy and indignation; but, on the other hand, we note the increasing rarity of the pock-marked face, the removal of one of the greatest plagues which has kept down the population of the world and, if common sense is left to us, we repent our hysterical hyperboles and bare our arms to the kindly, cruel lancet or ivory point.

We need not reiterate the unanimous verdict of all experimenters with vaccination in all lands. The fact that an experienced physician may unblushingly confess that he has never seen a case of variola, and that its rare appearance as a serious disease in the present age is due unexceptionally to neglect of the proper prophylaxis, is all that is necessary in addressing our circle of readers.

The latter misfortune has recently occurred in a small city of England, which, within historic times, had again and again seen the scourge fall upon the

shoulders of others, had again and again felt it on its own flanks, and which, in this present year of enlightenment, ignored the mild tap of the goad, but finally started when the stinging pain of wholesale affliction had crawled through its sluggish nerves and aroused its obstinate centres. The lesson is a severe one, and one by which more lucky though perhaps equally perverse communities may well profit. It is noteworthy in this instance that the afflicted town has suffered not from official apathy and procrastination—the first explanation thought of in similar catastrophes—not because the people had forgotten their pock-marked ancestors and the extinct collateral branches of their families, not from mere heedlessness of the existence of smouldering foci of infection. Unless the reports which we have received are incorrect, the outbreak of the epidemic at Gloucester was due to a deliberate and premeditated discontinuance of vaccination, an obstinate refusal to believe the overwhelming testimony of statistics and an organized attempt to balk the efforts of sanitary science.

The statistics of the Gloucester epidemic may be of interest. During the last ten years, the anti-vaccinationists had gained such influence that, out of 15,682 children born, only 2,378 had been vaccinated. In this town of 40,000 inhabitants, 2,036 cases of small-pox occurred, with 443 deaths. Seven hundred and fourteen of the cases occurred in persons under ten years of age. Twenty-five of these 714, had been vaccinated and one died. Of 688 unvaccinated children having small-pox, 279 died. No information is at hand regarding the perfection of the vaccination nor the time that had elapsed. An attempt was made to refer the epidemic to the sanitary condition of the city, but the city surveyor, who appears to be a reconstructed anti-vaccinationist, states that the sanitary condition has been excellent and that the prevalence of other infectious diseases has been unusually low. We have heard of some animals that could be driven only with a goad that had a nail fastened into the active end. The nail in the end of this argument is that the progress of the disease stopped short after general vaccination was carried out.

Such lessons as that of the Gloucester epidemic are dearly bought. It is no satisfaction to say "I told you so" to the rigid form of a man killed by his own carelessness and recklessness. But when the obstinate refusal to profit by experience and the warnings of history, involves the death of innocent and irresponsible victims as well as of those who are responsible, the disaster is truly awful.

ONE MAN HIS OWN TRUMPETER.

The question of professional advertising was precipitated at a recent meeting of a neighboring state medical society, by the display of an "Announcement Card," which provoked much comment and unstinted condemnation. As the document emanated from one fully entitled to practice under the laws of the State, but not amenable to the action of the state medical society, that body was powerless to do more than express disapproval. The announcement card itself is unique for a delicate "peach blow" hue, for definite statement of professional qualifications, and for distinctive literary style.

For the enlightenment of the profession the REPORTER reproduces the announcement, *verbatim et literatim et punctuatim*, save that the name given is euphuistically substituted and the address is omitted in the interests of the locality.

DR. I. M'ELLON FITS-UBET.

ANNOUNCEMENT CARD.

Having finished my Post-Graduate and special Hospital Surgical course, I am ready to resume my labor at the above address. My Hospital practice has been largely upon patients with chronic diseases that local physicians have failed to cure, and were sent to the hospital for medical and surgical treatment.—I propose to make a specialty of chronic and long-standing diseases.

Patients living at a distance can be treated by mail by describing their ailments and afflictions in full. This enables all aged feeble patients to obtain hospital treatment at their own homes. What is meant by long-standing, chronic diseases are such as *troublesome indigestion and dyspepsia, heart, lung, liver, kidney, skin and nervous diseases, rheumatism, tumors, cancers, diseases of women, etc.*, which are over four weeks standing.

The above specialty does not interfere with consulting me about any disease or trouble you may suffer with. I am ready to treat the whole 797 diseases that are said to exist.

Consultation Strictly Cash.

ABSTRACTS.

SEASICKNESS: ITS CAUSE AND RELIEF*

In a trip across the Atlantic I had observed the entire absence of all symptoms of seasickness in a party of five deaf-mutes. Indeed, their freedom from any annoyance of the kind, and the excellent appetites they enjoyed and gratified, while others around them were suffering from seasickness, excited general comment. Inquiry elicited the fact that deaf-mutes so rarely suffered from seasickness, as to be, as a class, practically free from the disorder under all circumstances. It was learned that out of a party of twenty-two deaf-mutes who crossed the Atlantic two months previously, not one suffered in the slightest degree from any form of seasickness, and yet a number of other passengers succumbed to it. Later, this party crossed that most trying of all bodies of water, the English Channel, and the same immunity was observed, though the passage was a rough one, and almost every other passenger on board became seasick. I was also told that a gentleman once made the trip from San Francisco to Portland by sea, with about thirty other deaf-mutes, that only one of these suffered from seasickness, and he had some disease of the ears which often caused dizziness and nausea at other times.

When it is remembered that only about three per cent. of persons crossing the ocean are entirely free from seasickness, it becomes evident that there must be some special cause for this freedom from it in deaf-mutes; and as the condition of the ears constitutes the only difference between the deaf-mute and the ordinary individual, it is naturally sought here.

It may be well to recall the fact that both physiological experiment and pathological observation point to that part of the inner ear known as the semicircular canals as exercising a controlling influence over the maintenance of the erect posture and the sense of equilibrium—functions frequently disturbed on shipboard.

It is generally conceded that seasickness is produced by the frequent and rapidly changing motions of the ship—

*James L. Minor, M.D., Memphis, Tenn., *New York Medical Journal.*

conditions which it is the function of the semi-circular canals to recognize and influence. Symptoms very similar to those of seasickness can be produced by turning around rapidly and frequently, or by swinging, and the cause is probably the same in each instance. And in diseased conditions of certain parts of the inner ear—the semicircular canals, in Ménière's disease—the symptoms are somewhat like those of seasickness.

Certainly if the foregoing deductions make probable the theory that the semicircular canals are sometimes concerned in the production of seasickness, then reasoning by induction establishes it beyond a doubt.

Deaf-mutes do not become seasick, nor do they suffer inconvenience—dizziness or nausea—when turned rapidly around, or when swinging. Moreover, it is a well-known fact that only in the irritative form of disease of the semicircular canals do dizziness, etc., appear, and that destructive disease of these parts does not produce either dizziness or nausea. Moos reports a case in which, after the falling out of a necrosed semicircular canal, deafness appeared, and with it permanent cessation of severe dizziness. And I have observed the same thing in one of my patients.

In deaf-mutes there is absolute deafness, or very great reduction in hearing, dependent upon destruction or serious impairment of function of the peripheral distribution or sound-perceptive elements of the auditory nerve, in which process the semicircular canals are included.

These facts must force one to the conclusion that the reason why deaf-mutes do not suffer from seasickness is owing to the fact that their semicircular canals are destroyed or their sensibility impaired; and it is equally rational to suppose that others who suffer from seasickness do so because they have semicircular canals which are irritated by the frequent and varied motions of the ship.

Now, if by the use of any agent the semicircular canals can be anesthetized, the value of these conclusions would be settled at once. I suggested the use of oleate of cocaine, putting a few drops in the ear every day or two, or oftener, if necessary. Living in an interior town, however, I have had no opportunity of trying the drug in genuine cases of seasickness, and have had to limit myself to the induced and certainly allied affection—the dizziness and nausea produced by rapidly turning around. The results obtained have surpassed my expectations, and certainly suggest that the local use of cocaine in the ears may prove a most valuable remedy against that *bête noire* of ocean travel, seasickness.

I experimented with twenty-four healthy-eared individuals, and found that forty revolutions to the minute constituted rapid turning; that three or four such revolutions were sufficient to cause dizziness and often a sense of nausea; that three drops of an eight-per-cent. solution of cocaine oleate, dropped into each ear, diminished the susceptibility to dizziness, etc., to such an extent that more than double the number of revolutions could be made before any inconvenience was felt; that when, from continued turning, the dizziness, etc., came on after the the use of the cocaine, it was less pronounced and more transient than without it.

The effects of the cocaine begin to manifest themselves in from twenty minutes to half an hour, and last from four to six hours.

I should say, then, that seasickness was a manifestation of irritation of the semicircular canals caused by the frequent and varied movements of the ship; that any drug which will lessen the irritability of the semicircular canals was a rational remedy for seasickness, and that a solution of cocaine dropped into the ears was such a remedy.

"The Amazons," exclaimed the courier, hurriedly, "are anxious to advance and throw themselves into the breach." The King of Dahomey knit his brows. "Do you think it would be safe?" he mused; "you know how it is about women throwing."—*Detroit Tribune.*

Peaceful Peters—Yes, me young friend Walker entered into rest de twelft of August, 1896.

Languid Laurence—Wot's got yer Peters? He ain't dead yet.

Peaceful Peters—I know he aint. Dat was de date of his birth.—*Life.*

THE HOUR OF DEATH.†

As this subject has lately been discussed in the press, it may be useful to draw attention to the attempts which have been made by competent observers to compile reliable statistics to throw light on the question. It is very difficult in comparing these statistics to come to any definite conclusions, as the tables have not been prepared with any uniformity. If some understanding were come to beforehand as to the exact form in which such tables should be compiled, it would be well worth while to get a series of observations from different parts of the country, and see how far the curves represented by such tables would coincide. One of the best papers in English is that published by Dr. Finlayson.[1] The statistics used in this paper were put together by Mr. West Watson, the City Chamberlain in Glasgow, and consisted of the 13,000 deaths which occurred in that city during the year 1865. Taking the deaths as a whole, it is found that the greatest number occurred between the hours of 4 and 10 A.M. This agrees roughly with the results of a very elaborate calculation by Dr. C. F. Schneider[2] based on 57,000 deaths in Berlin. Dr. Finlayson's curve reaches its highest point between the hours of 5 and 6 A.M., and Dr. Schneider gives his greatest mortality as occurring between 4 and 7 A.M. This is again corroborated by Berens,[3] who found that in 1,000 deaths in Philadelphia the most fatal hour was from 6 to 7 A.M. It is interesting to compare the conclusions of Dr. Finlayson and Dr. Schneider in the following table:

Proportion of Deaths per 1,000.

	Deaths	A.M.			P.M.		
		12—4	4—8	8—12*	12—4	4—8	8—12
Watson (Finlayson)	13,854	159	180	174	162	166	159
Schneider...	57,984	169	191	169	152	163	157

* Noon.

† *British Medical Journal.*

1 *Glasgow Medical Journal*, New Series, vi, 171.
2 *Virchow's Archiv*, xvi, 95.
3 *Philadelphia Medical Times*, v, p. 420.

The figures of both Dr. Finlayson and Dr. Schneider show a peculiarity as regards the hours 11 and 12 P.M., and 12 midnight to 1 A.M. In Glasgow the deaths between 12 and 1 were 474, and in the previous hour, 11 to 12 P.M., 611. The Berlin figures for the same periods are 1,867 and 2,629. Dr. Finlayson thinks that this incongruity is accounted for by the fact "that the public might incline to put cases occurring at this doubtful time within the day on which they had been watching for the fatal event." It is quite obvious that, taking all the circumstances into consideration, very little reliance can be placed on the returns as to the exact hour of death. The same incongruity appears from a series of deaths at the Glasgow Town Hospital, but, curiously enough, the balance is on the opposite side. Dr. Finlayson's explanation for this is "that the officials at a workhouse might be supposed to prefer to return such ambiguous cases for the fresh day on which, as night nurses, they were entering." This difference between hospital statistics and those of deaths in private houses is borne out by some figures of Dr. Steele,[4] in an article on patients treated at Guy's Hospital, 1854–61. There he shows that between 11.30 and 12.30 there were fifty-eight deaths, and between 12.30 and 1.30, 111 deaths. It is pretty plain that these discrepancies are due to some extraneous cause, and that they would be rectified by a uniform system of registration. In any future attempts to investigate this subject it will be necessary carefully to consider the source of the statistics. Experience shows that the hours of death in acute diseases differ considerably from those in chronic diseases, and it would be misleading to treat these two sets of cases as though there were no difference between them.

4 *Journal of Statistical Society*, 1861, p. 395.

Probably not: "Is he happily married?" "Well, his wife is the sort of a woman who will stand up near the rear door of a street car when there are vacant seats further up front."—*Puck.*

THE NUMBER OF PHYSICIANS AND MEDICAL SCHOOLS IN THE UNITED STATES.

An interesting statistical article on the medical colleges, physicians, etc., of the United States, based on the last edition of Polk's Medical and Surgical Register and the census of 1890, appears in the *Virginia Medical Semi-Monthly* of August 21st.

According to the above authority the ratio of physicians of all kinds in the United States is about one to six hundred and thirteen of population. This estimate is based on a population of sixty-five millions, and one hundred and six thousand of the physicians are thought to come under the head of "regular," while twenty-six thousand represent the electric, homœopathic, physio-medico and other sects, together with professional quacks and irregulars in general. They are distributed throughout the Union, in the various States and territories as follows:

State.	Population.	No. of physicians.	Ratio of population.
Alabama	1,513,017	1,609	1: 940.3
Alaska	32,052	5	1:6,410.0
Arizona	59,620	95	1: 638.1
Arkansas	1,128,179	1,841	1: 558.5
California	1,208,130	3,152	1: 383.4
Colorado	412.198	918	1: 449.0
Connecticut	746,258	1,139	1: 666.9
Delaware	168,493	239	1: 704.5
Dist. of Columbia.	230,392	857	1: 264.2
Florida	391,422	764	1: 512.3
Georgia	1,837.353	2,021	1: 909.5
Idaho	84,385	109	1: 772.3
Illinois	3,826,351	7,331	1: 521.9
Indiana	2,192,404	4,778	1: 458.8
Indian Territory	172,321	291	1: 592.3
Iowa	1,911,896	3,400	1: 562.4
Kansas	1,427,096	2,210	1: 645.6
Kentucky	1,858,635	3,104	1: 598.8
Louisiana	1,818,587	1,460	1: 766.2
Maine	661,086	1,164	1: 567.9
Maryland	1,042,390	2,003	1: 520.4
Massachusetts	2,238,943	4,032	1: 555.2
Michigan	2,093,889	3,730	1: 561.3
Minnesota	1,301,826	1,576	1: 826.0
Mississippi	1,289,600	1,397	1: 943.3
Missouri	2,679,184	4,736	1: 565.7
Montana	132.159	247	1: 575.5
Nebraska	1,058,910	1,595	1: 663.8
Nevada	45,761	48	1: 953.3
New Hampshire	376.530	669	1: 562.6
New Jersey	1,444,933	1,844	1: 783.5
New Mexico	153,593	97	1:1,584.5
New York	5,997,853	11,132	1: 538.7
North Carolina	1,617,947	1,358	1:1,191.4
North Dakota	182,719	203	1: 900.1
Ohio	3,672,316	7,575	1: 484.7
Oklahoma	61,834	326	1: 189.7
Oregon	313,767	653	1: 480.5
Pennsylvania	5,258,014	8,439	1: 623.0
Rhode Island	345,506	543	1: 536.3
South Carolina	1,151,149	1,060	1: 991.7
South Dakota	328,808	364	1: 903.4
Tennessee	1,767,518	3,079	1: 574.0
Texas	2,235,523	4,617	1: 484.2
Utah	207,905	254	1: 818.5
Vermont	332,422	626	1: 531.0
Virginia	1,655,890	1,978	1: 847.3
Washington	349,390	650	1: 537.5
West Virginia	762,794	1,236	1: 536.4
Wisconsin	1,686,880	1,974	1: 854.9
Wyoming	60,705	60	1:1,011.7

The medical schools number about one hundred and seventy-five. Of these one hundred and twenty are regular, nineteen homœopathic, seven eclectic, two physio-medico, and twelve unclassified. Eight are for women specially; five of these being regular, two homœopathic, and one eclectic. In eight of the other colleges women are permitted to matriculate, and four are exclusively for colored people.

She—I worked hard at French before going to the continent.

He—And they understood your French?

She—Oh, no! but I managed to get along with their English beautifully.—*Sketch.*

Macbeth up to Date.

Thyroid of a black-faced sheep
In the cauldron boil and steep;
Brain of pig and spine of dog,
Testes of lascivious hog,
Pancreas of white-faced calf
Plunge in the mysterious bath;
Double, double, toil and trouble,
Fire, burn, and cauldron, bubble!
Medulla of a rabid bitch
Lain a fortnight in a ditch,
Bacillus of an anthraxed rat,
Cocci grown in putrid blood
Will make the spell both strong and good.
Double, double, toil and trouble,
Fire, burn, and cauldron, bubble!

—Doctor Jeaffreson.

SOCIETY REPORTS.

THE BUFFALO ACADEMY OF MEDICINE.

SURGICAL SECTION.

The Regular Meeting of this Section was held October 6.

The program was as follows:

"The Semi-Centennial of Anesthesia,"
DR. ROSWELL PARK.

"Ancestry as a Factor in Surgical Diseases,"
DR. WOODS HUTCHINSON.

"Exhibition of Roentgen Ray Apparatus, with Demonstration,"
DR. R. R. ROSS.

Dr. Park explained that he would not read a formal paper, since the University of Buffalo was to celebrate the semi-centennial of the first public demonstration of anesthesia, October 16, by appropriate exercises, in the course of which he himself was to present a historical paper. Dr. Park stated that a careful investigation of the claims of various men to have been the discoverers of anesthesia, showed that the contest could easily be narrowed down to Morton, Jackson, Wells and Long. It was probably true that Long, of Georgia, did use ether prior to its use by Morton, but his administration was partly surgical, partly experimental, and his confidence in the drug was so slight that he used it only once or twice, and did not publish his results till Morton's announcement, two years later, called his attention to the importance of the subject. Ether has been known as a chemical for about a century, and its effects were so popularly known that the peasantry of Georgia and the students of preparatory schools in the vicinity of Harvard College were in the habit of having "ether frolics," at which the administration was occasionally carried beyond the stimulating stage, and produced alarming symptoms. It was doubtless in this way that Long received the suggestion of the possible value of the drug as an anesthetic. Jackson, who had been geologist to several States, and was necessarily somewhat of a chemist, as well as a man of general scientific education, claimed to have suggested the anesthetic use of ether to Morton. It was significant, however, that this claim was not made till Morton had administered the drug in public, and had patented its use, so that there appeared to be a financial value in the discovery. Wells, to whom the use of nitrous oxid is properly credited, probably did not use ether till Morton's work was made public. Regarding Morton's patenting his discovery, it should be stated that he acted in conformity with the existing custom of his profession. He had graduated in dentistry at Baltimore, and, though he began to study medicine at Harvard, he did not complete the course. His interest in the general subject of anesthesia had been aroused by Wells.

Dr. Hutchinson spoke from notes and referred to a number of particulars in which the study of embryology and of evolution throws light on the development of surgical diseases. The branchial clefts, as influencing the formation of cysts, the deformity of equino-varus explicable by the position of the lower extremities of the fetus in utero and by the arrangement in anthropoid apes, the inclusion of extraneous cells which later form tumors, the close analogy between normal growth of tissues and that of malignant tumors, were among the points mentioned.

Dr. Ross's apparatus consisted of a number of storage battery cells, giving an aggregate voltage of about 20, transformed by a tremendous Ruhmkorff coil into a potential of about 700,000 volts, the alternating current being conducted by ordinary tinsel threads to the extremities of various Crooke tubes. Dr. Ross stated that only a few Crooke tubes out of a considerable number were satisfactory. The tube used was filled with a greenish glow when the current was turned on, and the fluoroscope, containing a coating of calcium tungstate, revealed the bones of the hand very plainly, but did not give a sufficiently clear outline to determine the presence of exostoses or similar minor deformities.

The meeting was one of the most successful in the history of the Academy, the hall being filled beyond its seating capacity.

Solid and dry as the human body appears, water constitutes more than one-fourth of its bulk, and all the functions of life are really carried on in a water bath, and, although the sense of thirst may be trusted to call for a draught of water when required, the fluid can be imbibed most advantageously for many reasons besides merely satisfying thirst. In the latter stage of digestion, when comminution of the mass is incomplete, it is much facilitated by a moderate draught of water, which disintegrates and dissolves the contents of the stomach, fitting it for emulgence and preparing it for assimilation. Hence the habit of drinking water in moderate quantities between meals contributes to health, and indicates the fact that those who visit health resorts for the purpose of imbibing the waters of mineral springs might profit by staying at home and drinking more water and less whiskey. Water is the universal solvent of Nature, and the chief agent in all tranformations of matter.—*Health.*

NEWS AND MISCELLANY.

In the death of Dr. George P. Bassett, at Dansville, N. Y., another of the old school of physicians has departed. He had been in active practice in Downsville, his native village, from the time of taking his degree, in 1862, with the exception of a short time when he served in the army as assistant surgeon. His field of practice was a wide one, extending, according to local papers, over a radius of fifteen miles, and, according to the same authority, he was as much beloved for his uniform kindness and generosity as he was respected for his attainments in medical science.

The commissioners in charge of the park system of West Chicago are going in for a number of innovations that are sure to be appreciated by the public. They include a bicycle race-track, a gymnasium, and a natatorium. The last two institutions have just been dedicated to the public. The natatorium provides accommodations for several hundred bathers, with separate pools for men and women, and all the necessary appliances will be furnished without charge. The gymnasium is combined with a quarter-mile running-track, and is essentially an out-door affair, provided with apparatus in great variety. Both these institutions are situated in the part of Chicago that lies well away from Lake Michigan, and is consequently most in need of such accommodations. It would be well for the park authorities of other large cities to follow this admirable example, and make their municipal pleasure-grounds thus minister in the widest sense to the physical needs of the poorer classes. There is no wiser form of public expenditure, and none that will bring a larger return from a given investment.—*Harper's Weekly.*

In all cases of rectal inertia, resulting either from a low grade of inflammation or ulceration occupying any site of the large bowel, tubercular, specific, or malignant, attended with persistent constipation, the perfunctory administration of an enema or cathartic is inadequate, says Manley, in the *Medical Brief*, and nothing less than a painstaking physical examination will reveal the real condition. In many males past middle life, in whom we have reason to suspect inhibition of the sensory reflexes of the rectum from local lesion in the neural periphery or in the spinal or central ganglia, particularly when vesical symptoms are present, with obstructed or forced urination, before directing any special therapy to the genito-urinary organs, we should be entirely assured by a digital examination that there are no fecal concretions lodged in the lower rectum. A relaxed, partially prolapsed uterus may roll over and interfere with complete defecation, giving rise to symptoms of fecal obstruction; and *per contra*, a rectal bag of hard, dehydrated or calcified fecal mass may, in turn, give rise to nearly every symptom of ovarian, tubular, or uterine disease. A thorough exploration of the rectum as a primary measure is of prime importance in all such cases.

Among the list of interesting papers to be read before the meeting of the Tri-State Society (Alabama, Georgia and Tennessee), held at Chattanooga, October 13th, 14th and 15th, we notice one by the erudite editor of the *Alabama Surgical Age*, Dr. Davis, with the title as written above—"Puss in the Pelvis." We have heard of pussy in the moonlight on roof and gable, in wood-shed and in stable, on fence, piazza, tree and plaza, but never before have we heard of pussy entering the sacred precincts of the pelvis. How got the pussy there? We should have to go to Chattanooga, to find out, we suppose.—*St. Louis Clinique.*

The local treatment of diphtheria with sodium hyposulphite has been too much neglected in modern therapeutics, says Dr. Henry Wickers, in the *Lancet*. He has for some time been using a solution of sodium hyposulphite as a local application in diphtheria and has been well satisfied with the results, three or four applications having generally been sufficient to clear away the false membrane. The solution is prepared for use by mixing equal parts of pure glycerin and a saturated solution of hyposulphite of sodium in water, and is applied with a brush to the exudation and inflamed fauces once or twice daily or as often as may be deemed necessary. The glycerin by its adhesiveness keeps the solution longer in contact, and also, by its well-known local action, helps to relieve that engorgement of the mucous membrane which seems especially favorable to the growth of exudation. It is probable that the hyposulphite has a continuing action as a germicide in the following manner: Chemic decomposition is first set up by contact with the acid secretions of the mouth and throat, sulphur and sulphurous acid in a nascent state being set free; the latter being gradually converted by oxidation into sulphuric acid, would in the same manner decompose further portions of unchanged hyposulphite, and so on until the hyposulphite was exhausted. The local treatment will not interfere with the general treatment, which must be adapted to the necessities of each individual case.

To the non-occurrence of puerperal hyper-involution may be attributed many of the gynecologic cases seen in private practice. By examinations up to the twelfth puerperal week the condition may be recognized if existing, says Dr. Hiram N. Vineburg and the ill consequences of deficient involution averted. Care should be taken that the condition does not become permanent. Observations may be summarized as follows:

1. Modern researches tend to prove that post-puerperal involution consists chiefly in a

retraction and contraction of the individual muscle-fibers whereby the whole uterus is reduced in size.

2. When involution goes on to its full completion the uterus is reduced to a size smaller than that of the non-parous organ.

3. This condition of complete involution is known as post-puerperal hyper-involution. It is principally seen in nursing women, and from this circumstance has received the cognomen of *lactation-atrophy*.

4. The so-called lactation-atrophy is a normal and desirable condition. It is temporary in its duration; but very rarely, under unfavorable circumstances, may become permanent.

5. When the parturient is unable to perform the function of lactation it is the duty of the physician to endeavor to bring about hyper-involution by other means at his disposal. An observance of this course will prevent many a woman from developing a host of gynecologic affections which frequently result from imperfect involution.—*Am. Jour. Med. Sciences.*

The Country Doctor.

The country doctor! Let the bard
Whose lyre is tuned to idle praise—
His locks unshorn, his face unmarred
By sweat and grime, his hands unscarred
By daily toil—in dulcet lays,
In empty word and hollow phrase
Recount the annals of the great.
A humbler theme to you I bring—
The smell of flow'rs, the breath of spring,
The flutter of the bluebird's wing—
And with it all I bring to you
The country doctor, good and true.

The country doctor! Him whose life,
From sun to sun, is daily rife
With bootless toil and ceaseless strife;
Whose sturdy frame is made to feel
The summer's flame, the winter's steel—
I come to sing in praise of him.
His soul is fat; his purse is slim;
His eyesight keen; his foresight dim—
For caring naught for power or pelf,
While there's a crust upon the shelf,
He works for fun and boards himself!

Ah! ye, who traverse city streets,
On swaying springs and cushioned seats,
The difficulties that he meets—
The bumps and jolts—ye little know,
Through seas of mud, o'er wastes of snow,
Where icy tempests howl and blow,
In pouring rain, where torrents flow
And sheen and shadow come and go,
Astride the sorriest of nags
And armed with spur and saddlebags,
He onward works his weary way;
And be it night or be it day,
He never falters nor looks back
Adown the steep and rugged track,
But sets his teeth and onward plods—
Himself a clod among the clods!

I've said—"A clod among the clods,"
'Twere better—"God among the Gods!"
For sacrificing hours of ease
And striving hard to do and please
And winning but the dregs and lees
Of life's sweet wine, he fights disease
With clenched hands and bated breath—
And knows no conqueror but death.
It shames me not to tell the truth—
An unkempt, muddy god, forsooth!
Besmeared, bespattered, leggings, suit—
From crown of hat to sole of boot,
And ofttimes tumbled in the wave
That seems to yawn a watery grave,
He bobs serenely on the flood
And swims about the sea of mud.
For lo! his pockets are so light
He cannot disappear from sight!

No scientific friend has he—
Who ends his name "A. M., M. D."
Or tacks thereto a "Ph. G."—
To help him in perplexity,
And earn them both a handsome fee;
But when he finds a knotty case,
A problem that he dare not face,
He sends his patient off to town
To some physician of renown.
(God save the mark! All, all are great
Who dwell within the city's gate!)
And this great man dilates his eyes
And rubs his hands, looks wondrous wise—
And nimbly gobbles up the prize!
The city doctor counts his gold,
Makes fresh deposits in the banks,
And sends the country doctor, old—
A neatly worded note of thanks!

The city doctor spends his days
In crowded marts and traveled ways;
At night he sees the latest plays,
And rests his half enchanted gaze
On some new "star" that lights the stage
A star of most uncertain age,
Of whom the critics rant and rage,
The country doctor, poor, despised—
His purse half-starved and undersized—
Contents himself to stay at home;
The only stars he ever knows
Are those that rest in heaven
And light the waste on winter snows.

The country doctor! Blessed be he
Who sets the weary suffr'er free
From burning fever, raking pain
And countless ills—and does it, too,
Without a thought or hope of gain;
Without a single cent in view!
I come to sing in praise of him
Whose soul is fat, whose purse is slim;
Whose eyesight keen, whose foresight dim,
For caring naught for fame or pelf,
While there's a crust upon the shelf—
He works for fun and boards himself.

—*Ohio State Journal.*